



## Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact [support@jstor.org](mailto:support@jstor.org).

*Of the Penetration of a Hemisphere by an indefinite Number of equal and similar Cylinders.* By Thomas Knight, Esq. Communicated by Sir Humphry Davy, LL.D. Sec. R.S. Read March 19, 1812. [*Phil. Trans.* 1812, p. 310.]

The problem which Mr. Knight here undertakes to solve, is to pierce a hemisphere perpendicularly to the plane of its base, with any number of equal and similar cylinders of such kind, that after the removal of these cylinders, the remainder of the hemisphere shall admit of exact cubature; and when the surface has been thus perforated, the remaining surface shall admit of exact quadrature.

But the solution of this problem, as well as of those contained in the preceding communication, was, of course, such as not to admit of being publicly read.

*On the Motions of the Tendrils of Plants.* By Thomas Andrew Knight, Esq. F.R.S. In a Letter to the Right Hon. Sir Joseph Banks, Bart. K.B. P.R.S. Read May 4, 1812. [*Phil. Trans.* 1812, p. 314.]

Some naturalists have supposed tendrils to be endued with some degree of perception, to which their propensity to approach neighbouring objects may be ascribed; and though others who have written on the same subject may have rejected this hypothesis, it does not appear to Mr. Knight that any direct experiments have been made similar to those which he here describes, for the purpose of ascertaining whether these motions may not be ascribed to peculiarity of organization, aided by the operation of external causes.

The plants selected for his experiments were, the Virginia Creeper, the Ivy, the Vine, and the Pea. When a young plant of the creeper, trained directly upwards, was placed alone in the centre of a forcing-house, its tendrils were all turned towards the north wall; but as this was out of their reach, they declined gradually, and ultimately fixed themselves on the upright stem beneath and upon its support.

When other plants were placed near the glass, their tendrils were always directed from the light, as in the former instance, although no object was within their reach on the dark side.

Mr. Knight next tried the effect of placing near them a piece of dark paper; to this they appeared to be strongly attracted, and when the paper was removed to a new position, the tendrils were found to follow it. When a piece of glass was substituted for the paper, the tendrils showed no disposition to approach it; but, on the contrary, when it was placed so as to reflect the light of the sun upon the tendrils, they appeared to be strongly repelled by it.

In making corresponding experiments on the ivy, Mr. Knight found the same propensity in its claspers to recede from the light; but it was necessary to place substances much nearer than in the former experiments for them to manifest any appearance of spontaneous motion.

When a young plant of the vine was placed under the same cir-